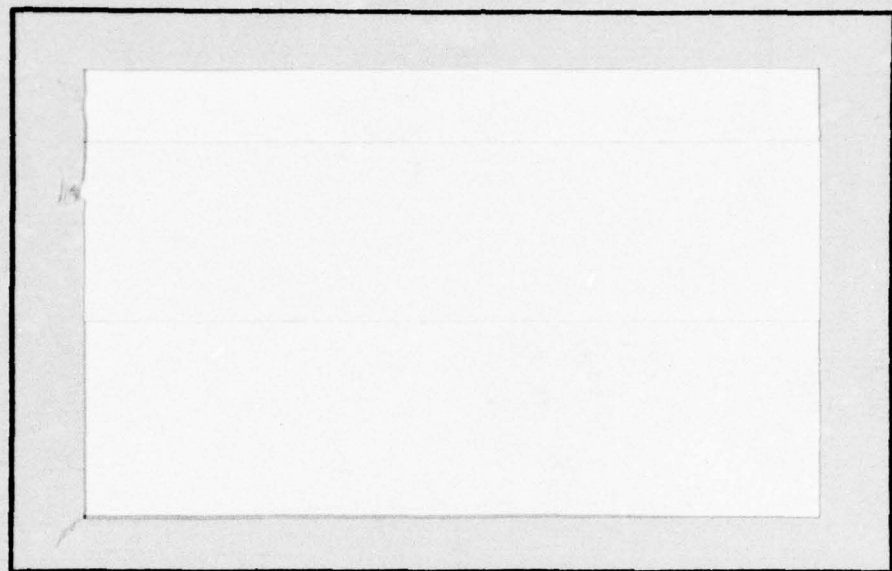LEVEL 4

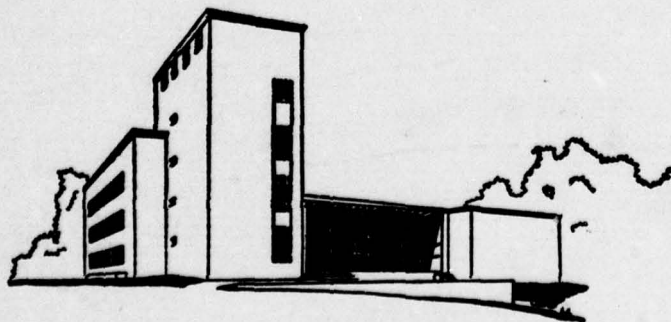# Carnegie-Mellon University

PITTSBURGH, PENNSYLVANIA 15213

GRADUATE SCHOOL OF INDUSTRIAL ADMINISTRATION

WILLIAM LARIMER MELLON, FOUNDER

DDC

RECEIVED

OCT 19 1979

A

79 10 19 078

Institutionalization of
Planned Organizational Change[1,2]

Paul S. Goodman and Max Bazerman
Graduate School of Industrial Administration
Carnegie-Mellon University

Edward Conlon
College of Industrial Management
Georgia Institute of Technology

August 1979

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER 14 / 1	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) INSTITUTIONALIZATION OF PLANNED ORGANIZATIONAL CHANGE.		5. TYPE OF REPORT & PERIOD COVERED Interim 5/1/79 - 4/30/80
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Paul S. Goodman, Max Bazerman, Edward Conlon		8. CONTRACT OR GRANT NUMBER(s) N00014-79-C-0167
9. PERFORMING ORGANIZATION NAME AND ADDRESS Carnegie-Mellon University Pittsburgh, PA 15213		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS Aug 79
11. CONTROLLING OFFICE NAME AND ADDRESS Office of Naval Research Arlington, VA 22217		12. REPORT DATE
		13. NUMBER OF PAGES 53
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office)		15. SECURITY CLASS. (of this report)
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited.

Interim rept.
1 May 79-30 Apr 80.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Organizational change, Organizational effectiveness, Institutionalization, reward system, sponsorship transmission mechanisms, group forces, diffusion processes, organizational environment.

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

Abstract attached.

389 976

ABSTRACT

The concept of institutionalization, which concerns the process
by which organizational change is sustained, is examined. Basic
definitional attributes and a two-phase model of institutionalization
are presented. Then factors in the literature which affect the
degree of institutionalization are reviewed and related to the model.
Some of the factors include: the organization's reward system, trans-
mission mechanisms, group forces, diffusion processes, etc.

The 1970s have witnessed a rapid proliferation of planned
organizational interventions (Goodman and Lawler, 1977). The goals
of these efforts have been to increase productivity for the organization
and to improve the working life of the employee. One of the major
issues in these interventions is whether the change effort can be
sustained over time. The focus of this chapter is on the concept
of institutionalization which concerns the process by which changes
in social systems are maintained over time.

Institutionalization is one of the critical concepts in organizational
change. Failure to institutionalize new behaviors clearly detracts from
the effectiveness of the organizational change. Our view of the
organizational literature is that there is little systematic
conceptual or empirical work on this topic. The goal of this chapter
is to develop a theoretical framework and to identify the factors
that contribute to institutionalization. Our analysis will be limited
to planned organizational change where the focus is on altering
organizational structure (e.g., role relationships, reward systems,
technology) or organizational process (e.g., communication, decision
making). Interventions primarily oriented to changing individual
behavior through some form of training (e.g., sensitivity training)
are excluded.

A Selective Review

Organizational change is a central issue in organizational theory.
Unfortunately, most of the discussions of organizational change provide
few insights into the theoretical issues or the processes of change.

The primary mode of examining organizational change has been to outline general phases of change, describe intervention techniques, or review research findings.

The work by Lewin (1951) and Schein (1969) has focused on the processes of unfreezing, changing, and refreezing from a psychological perspective. This conceptualization is useful to the extent that it helps to organize our thinking about change processes. It fails, however, to provide much insight into why refreezing or institutionalization does or does not occur. Still another approach uses gross variable classifications and implies causality through the use of a "flowchart" to illustrate their framework for change (Beer and Huse, 1972; Friedlander and Brown, 1974). These approaches are quite general, provide little insight into critical processes such as institutionalization, and rarely generate any testable hypotheses.

The organizational change literature can also be grouped by the intervention techniques discussed by, for example, Friedlander and Brown (1974) and Katz and Kahn (1978). While this approach is instructive in delineating alternative techniques for change, it tells very little about the theoretical issues underlying the change process.

There is also an empirical literature of organizational change. One possibility is that a theory of planned organizational change processes might be developed inductively from these empirical studies. Unfortunately, the quality of these studies is poor (White and Mitchell, 1978). They are devoid of the methodological rigor that would allow drawing generalizations about change processes.

The studies that attempt a rigorous assessment of the effectiveness of planned organizational change tend to focus only on short-term results. The problem of institutionalization of change demands, however, a longitudinal assessment of the change effort over time. In the few studies of institutionalization, the principal focus has been on determining whether the change has persisted rather than on why it has persisted (Miller, 1975; Seashore and Bowers, 1978).

Discussions of institutionalization and other processes of change can be found in literatures outside the area of planned organizational change (e.g., Parsons, 1951; Homans, 1961; Berger and Luckman, 1966; Buckley, 1967; Meyer and Rowan, 1978). For example, the functional position (cf. Parsons, 1951) ties persistence of social structure to the functional prerequisites of social systems. Homans (1961) uses the concept of institutionalization to differentiate transactions based on social exchange and transactions embedded in social structure. Berger and Luckman (1966), working from an ethnomethodological position, conceptualize institutionalized acts as those behaviors that acquire shared meaning through a process of reciprocal typification. Institutionalized acts are repeatable by any member of the social system without a significant change in the meaning of those acts for others in the social system.

While these efforts provide alternative views of institutionalization, they are developed at a fairly general level, they do not identify factors affecting variation in levels of institutionalization, they do not focus on the process of institutionalization, and most important, the level of

explanation is not easily applicable to the topic of planned organizational change.

Given the theoretical significance and the current state of the literature, the first step will be to develop a theoretical framework that can be used to organize our current body of knowledge, and more importantly, to identify the direction for future research. We begin with a definition and then distinguish institutionalization from other concepts in the literature. Second, a two-phase model of institutionalization will be presented. This is the main contribution of the chapter. Finally, we use the conceptual model to organize the factors from the empirical literature that affect institutionalization.

Basic Definitions and Concepts

Institutionalized Act

Our conceptualization of institutionalization focuses on specific behaviors or acts. An institutionalized act is defined as a behavior that persists over time, is performed by two or more individuals in response to a common stimulus, and exists as a social fact. Behavior as a social fact means that the behavior exists external to any individual, is part of a social reality, and is not dependent on any particular individual. An institutionalized act is then a social construction transmitted across generations of organizational members. An institutionalized act is also a behavior performed by multiple individuals given a common stimulus. The act is not only a social construction but also occurs in a social context. Individuals in the social context

have knowledge of their own performance of the target behavior and that others are performing the same behavior for a similar rationale. Lastly, persistence, an important characteristic of an institutionalized act, means that the act will be evoked over time.

These three characteristics -- <u>persistence</u>, <u>performance by multiple others</u>, and <u>its existence as a social fact</u> -- are the defining characteristics of an institutionalized act.

Institutionalized acts vary in degree. That is, they vary in the degree to which they are accepted as a social fact, are performed by multiple others, and persist over a long time period. An act not highly institutionalized would not be evoked in common with others exposed to a common stimulus, would not be exhibited over long time periods, and, if maintained, would probably require some direct form of control. That is, it would be performed in response to some direct reinforcement mechanism rather than being embedded in social reality. Two major concerns of this chapter are the definition of different levels of institutionalization and the identification of the causes of different levels of institutionalization.

The following concepts may further clarify our definition of institutionalization.

1. Institutionalization as an act or process. Our primary definition focuses on institutionalization as a specific act or behavior. The concept of process in this analysis will focus on the dynamic mechanisms which influence whether a behavior will persist, be performed by multiple individuals, and will exist as a social fact. Three major processes will be delineated in our two-phase model of institutionalization --

acquisition, which concerns how beliefs about the new work behavior are formed; reward allocation, which concerns the type and nature of reinforcement schedules which maintain the new behavior; and transmission, which concerns the mechanism by which new organizational members are socialized into the new work behavior (cf. Zucker, 1977).

2. Institutionalization as an organizational or individual phenomenon. An institutionalized act is an organizational phenomenon -- a social construction of reality that exists independent of any individual. While the emphasis here is on the social versus the individual level of behavior, it is impossible to conceptualize institutionalization without recognizing the individual level of analysis. The processes of acquisition, reward allocation, and transmission are directed at individuals. Further note that the focus here is on the behavior of individuals in social organizations, not on social institutions (e.g., educational, religious, economic) per se (Meyer and Rowan, 1978).

3. Institutionalization and motivation. The definition of institutionalization alludes to some forces which evoke and sustain institutional acts; delineation of the character of those forces should further clarify the discussion of institutionalization.

The motivational component in institutionalization is mediated by the process of reward allocation. There are four principal classes of forces that affect the level of institutionalization. First is the simple allocation of external rewards or punishments. In this case, the behavior is adopted and continued in order to receive rewards or to avoid

punishments. It is the contingency between the behavior and allocated rewards that motivates the institionalized act. A second social influence is internalization. In this case, the individual adopts and maintains a behavior because it is intrinsically satisfying and congruent with that individual's value scheme. That is, the individual adopts and maintains the behavior to achieve congruence between his behavior and his value system. Identification represents a third class of forces (Kelman, 1958). In this case, the individual accepts influence in order to maintain a satisfying relationship with another individual or with a group. Lastly, a behavior will be adopted and maintained when it is perceived as a social fact. In this case, the individual complies with the behavior because it is accepted as social knowledge which facilitates meaning and predictability in social action. It is a social convention not supported through any direct rewards. These four classes, although not exhaustive, represent the major forces that affect institutionalization. An important qualification is that none of these forces are necessary conditions for institutionalization. A single force or any combination of forces might bear on any institutionalized act. Also, it might be expected that at different levels of institutionalization different classes of forces would be important. For example, at low levels of institutionalization, instrumental rewards or internalization might be necessary to maintain the behavior. Highly institutionalized acts, on the other hand, may be accepted and maintained simply as social facts, that is, as social knowledge passed from one generation to another.

It is important to remember that these motivational forces must

be understood within the context of the definition of an institutionalized act. That is, internalization may lead to persistence of individual behavior, but may not be sufficient to cause institutionalization given the definition of an institutionalized act as behavior which persists over time, is performed by two or more individuals, and exists as a social fact. Internalization contributes to institutionalization when multiple individuals find the behavior congruent with their value systems, are aware that others perform the same behavior, and consider the behavior appropriate for a specific group or social organization.

4. Institutionalization and persistence. One defining characteristic of institutionalization is persistence of behavior over time. Persistence in the context of planned organizational change implies recurrent responses evoked by a cue. Persistence is not an all-or-nothing phenomenon. There are clearly degrees of persistence which can be identified in terms of response rates over time. Persistence can be described as the probability of evoking an act given a particular cue and the functional form of that response rate over time. Behavior that is evoked at the same rate at each time period represents persistence in a steady state. If the response rate were to decline over time, we would say that the level of persistence (and of institutionalization) would have declined.

There is no a priori standard by which to determine how long a behavior must last before it is institutionalized. Instead, an institutionalized act may be measured in terms of degree. That is, the degree to which a behavior persists is a measure of the degree of institutionalization.

Another issue related to persistence concerns the level of specificity between a cue and act. It could be argued that a specific cue should evoke a specific act. Another point of view holds that a cue will evoke a common class of acts. Our conceptualization of persistence assumes the latter view. That is, persistence is defined in terms of the probability of evoking a behavior from a common class of responses rather than the probability of evoking a specific response. This position permits some evolution and modifications of institutionalized acts -- there is a zone of acceptable responses. The concept of a zone is derived from the notion of a stimulus generalization gradient.

To illustrate this idea in one recent organizational intervention (Goodman, 1979), the behavior of communicating between work shifts was introduced to improve organizational effectiveness. Initially each member of a work group would communicate with his counterpart each day during the change of shifts. A year into this intervention, the workers would communicate only if there was a problem. Two years into the program a crew representative served as the communicator. In this example, the specific communication behaviors changed but the general behavior of communicating to coordinate interdependent work activities persisted.

Related Concepts

The definition of institutionalization may be sharpened by contrast with other concepts. A selective set of concepts is enumerated below for this purpose.

Commitment. Commitment may be variously defined. For convenience we use the one discussed by Salancik (1977). Commitment is the binding of the individual to behavioral acts. The acts are performed in relation to beliefs, attitudes, organizations and other social objects. For example, one might hold beliefs about the necessity to conserve energy. Commitment in this context would refer to behavioral acts such as buying a small car, reducing fuel usage, shutting off lights, etc. These acts bind the individual to the social object of energy conservation. The degree of commitment is a function of the explicitness or deniability of the act, the revocability of the act, whether the act was adopted by personal choice or external constraints, and the extent to which the act is known by others (Salancik, 1977).

Commitment and institutionalization are similar in that they both focus on behavior. Both concepts also relate to resistance to change. Once there is high commitment to a particular act or an act becomes institutionalized, the likelihood of changing that act diminishes. The two concepts differ in that commitment refers to a psychological process while institutionalization refers to the constructions of social facts. A single individual can make a commitment; institutionalization, on the other hand, requires the behavior of two or more individuals. Institutionalization also implies transmission of acts across generations of group members; this is not true in the case of commitment. An institutionalized act also persists over time; commitment to an act

occurs at one point in time. It may lead to persistence, but it is not defined by persistence. Commitment can precede institutionalization, but it should not be considered a necessary condition.

Group Conformity. Group conformity is the yielding of individual behavior to group forces. That is, uniformity in behavior can be evoked through information provided by or through compliance to group pressures. Conformity in this definition requires that there is some conflict between the individual and group positions. The more the individual yields to the group position, the greater the conformity. The Asch (1956) and Crutchfield (1955) experiments are classic tests of conformity.

Conformity parallels institutionalization in that both concepts treat the uniformity of behavior and both assume that behavior is embedded in a social context. Conformity, however, generally develops from group pressure -- a direct negative sanction. While there are a number of different forces (e.g., internalization) that might facilitate institutionalization, direct social control is only one of these forces. A second difference is that institutionalization refers to persistence in behavior by multiple others. The definition of conformity is not based on any notion of persistence.

Norms. Norms are pre- or proscriptions about behavior. They are statements about ranges of behaviors an individual should or should not perform (Blake and Davis, 1964). There are many similarities between norms and institutionalized acts. Both are social facts which exist independently of any individual. Also, both include statements about

appropriate or required behavior that are commonly held by others and supported by some social context (Jackson, 1966). In one sense, norms can be thought of as the product of the institutionalization process. The major difference between these two concepts is one of emphasis. Much of the literature on norms focuses on the structural characteristics of these concepts. The concern here is with how new forms of behavior are developed and maintained over time.

Diffusion. Diffusion refers to the extension and adoption of a new work behavior in a social system (cf. Rogers and Shoemaker, 1971). That is, it concerns the spread of innovation from one setting to another. In planned organizational change, diffusion refers to the spread of the change effort from one target area to another (cf. Zaltman, 1973). Institutionalization and diffusion are different but interdependent concepts. Diffusion includes the concept of institutionalization. Diffusion cannot occur completely without institutionalization. That is, innovation must not only be adopted in a new social setting; it also must persist. Institutionalization can occur without diffusion. Again, the two concepts differ in emphasis. The literature on diffusion focuses primarily on whether the innovation will be adopted in a new social setting; the theory of institutionalization concerns whether the behavior will persist.

Phases of Institutionalization

This section examines the two-phase model of institutionalization. We begin with the individual phase and then move to the structural phase. To facilitate this analysis, we assume that a new form of behavior has not been introduced. There is no structure or social reality relative to this behavior. Although the focus here is on an organization or subsystem, no assumptions are made about the existence of well-defined groups that may be transmitting social facts pertinent to the new focal behavior. That is, we start by asking how a new form of behavior becomes institutionalized rather than how an existing institutionalized act gets transmitted across generations. This position is important because it permits the analysis to start at the individual level.

Phase One -- Individual Level of Analysis

The analysis begins as a new behavior is introduced into an organizational setting. First, we consider whether an individual decides to adopt and to continue the new behavior. Following this, we examine the effect of multiple individuals adopting and continuing the new behavior. As multiple individuals become aware of each other performing the new behavior, the analysis must shift to phase two.

Decision to adopt. The decision to adopt concerns the initial adoption of the new behavior. We can understand this decision by reference to some of the concepts in expectancy theory (cf. Mitchell,

1974). Here we are using this theory as a way to think through the choice process rather than embracing the formal assumptions of that model.

The decision to adopt is related to the following factors.

1. The perceived ability of the target person to perform the new form of work behavior. The issue is whether the individual perceives that he or she is capable of performing the behavior in question. In a study of a Scanlon plan installation, Goodman and Moore (1976) reported that individuals who felt capable of making suggestions, a key behavior in that plan, did so; others, because of their perceptions of their own ability or of their work, reported that they could not make suggestions and did not. This belief then forms from the interaction among the proposed behaviors, perceptions of self, and the work environment.

2. The perceived relationship between the new behavior and resultant outcomes. In order for an individual to adopt a new behavior, there must be some prior belief that the behavior will be rewarding. If the target population for change does not perceive rewards flowing from the behaviors, it is unlikely the behavior will be adopted (Goodman, 1979).

3. The valence of the outcomes. A critical factor in the adoption decision, valence, refers to the attractiveness of the outcomes. It is assumed that the individual makes a comparison between the new work behavior and some alternative behavior. The choice should reflect the alternative with the highest expected value (or valence). This choice is made within the context of limited rationality (March and Simon, 1958). That is, the individual approaches the adoption decision

as a limited sequential processor of information. The level of awareness of outcomes is incomplete and varies among individuals. Also, the mechanisms to weigh and combine outcomes are at best crude approximations of the theoretical mechanisms for determining expected value.

The level of valence of any outcome is a function of the individual's needs and the amount of available outcomes. The types of outcomes (rewards or punishments) utilized in the adoption decision are another issue. Extrinsic rewards, those mediated through some external source, are probably the dominant type of reward in the adoption decision. Pay, recognition, and approval can all affect the decision to adopt a new work behavior. Intrinsic rewards, those mediated internally, may be used, but their effect is probably weaker in the adoption decision than in the continuation decision. The adoption decision is made on the expectation of rewards, not on the experience of rewards. It is probably easier to assign a valence to an expected amount of money than to an expected feeling of accomplishment. A third type of reward is identification. In this case, the individual adopts a behavior in order to maintain a satisfactory relationship with the person(s) requesting that behavior (Kelman, 1958). The outcomes do not follow from the behavior but rather from the relationship between the target person and the individual(s) requesting the change.

We have identified different types of outcomes for two reasons. First, the adoption decision and the continuation decision probably incorporate different types of rewards. Another reason for

identifying the type of reward is that the reward utilized in the adoption decision might affect the continuation decision. Different types of rewards are evoked by different cues. For example, if the decision to adopt is based primarily on identification, then the availability of the source of identification should affect the decision to continue. Absence of the identification stimulus or cue should decrease the probability of continuation.

Two processes are important in the decision to adopt -- acquisition and commitment. Prior to the actual decision to adopt the individual forms beliefs about the nature of that behavior and the reward contingencies associated with that behavior. The acquisition process concerns the acquisition of these beliefs. In the context of planned organizational change, the individual may adopt beliefs about new behaviors because of communications from a change agent or relevant other and/or because the individual has performed similar behaviors in the past and generalizes his beliefs about that behavior to the newly introduced behavior. The credibility, trustworthiness, etc., of the communicator and the similarity of the new work behavior to past behaviors determines the contents of the beliefs about the behavior and its reward contingencies (cf. Oskamp, 1977). The nature of the beliefs, then, affects the adoption decision which, in turn, can bear on the level of institutionalization (Goodman and Moore, 1970).

There are other contextual factors which bear on the adoption decision, for example, the number of learning sources. The greater the number of sources for learning about behavior-reward contingencies relevant to the new work behavior, the higher the social validity of the behavior. While we cannot predict the direction of the adoption

choice, we can expect the behavior to be more stable the higher the social validity. A related hypothesis concerns the level of congruence among the learning sources. The greater the level of congruence the more likely it is that the new work behavior will be adopted. In the case of the identification process, the greater the number of congruent influences with whom the target person identifies, the more likely is the adoption of the behavior. The greater the incongruity of sender expectations, the less likely it is that the new work behavior will be adopted.

The commitment process shapes the decision to adopt and can affect the level of institutionalization of the new behavior. Schein (1969) has suggested that the context for this decision is important in understanding the outcomes of change. He argues that the amount of freedom or control the individual has over the adoption decision affects the character of the institutionalization. At one extreme, the target person is captive and does not voluntarily accept the target role. The source of the change agent's power is position rather than expertise. At the other extreme, the target person volunteers into the change project, is free to terminate this relationship, and defers to the change agent as a function of expertise. This continuum for adoption may be useful in understanding the continuation decision. The hypothesis is that adoption decisions originating from the "control" end of the continuum would be unstable and highly contingent on the presence of the controller, while decisions originating at the "freedom" end of the continuum would probably enhance commitment to the new behavior and increase the probability of continuation of that behavior.

Decision to Continue

The persistence of a new behavior in the individual phase occurs for two reasons. First, a reevaluation of the adopted behavior is not cued. Second, if a reevaluation of the adopted behavior is cued, then the attractiveness of the selected behavior will determine whether the behavior will be continued.

Factors not evoking the decision to continue. The decision to continue will not be evoked, and hence behavior will persist, under the following conditions.

1. There is a congruence between the expected outcomes and the actual outcomes. The decision to adopt was based on expectations of certain outcomes. If those expectations are realized, then the adopted behavior might be expected to continue.

The types and schedule of extrinsic rewards will determine whether the decision to continue will be evoked. If the mediator of those rewards is visible over time to the target person, and if rewards are distributed in some predictable manner that is congruent with expectations, then the behavior should continue without any conscious reevaluation. What is critical here is whether the extrinsic rewards flow in some predictable manner. It may be that over time there is a discrepancy between the level of rewards expected prior to the adoption decision and the actual level of rewards. But, if the discrepancy grows slowly and the allocation of rewards remains fairly predictable and is perceived as equitable, then the behavior may persist anyway. The expectation level is dynamic and should adjust.

Identification (Kelman, 1958) is another force that can sustain

behavior. As long as the target person derives satisfaction from his relationship with the sender of change, then the new work behavior should persist. That is, if the experienced satisfaction is congruent with the expected satisfaction, then the decision to continue will not be evoked. The identification process can last beyond the decision to adopt.

Internalization (Kelman, 1958) can also affect the institutionalization of the new behavior. In this case, the individual incorporates the new behavior into his value system. The new behavior is performed not as a means but as an end. Where positive outcomes of performing the behavior are internally mediated (intrinsic), the behavior should persist without any conscious reevaluation. The actual outcomes are consistent with the individual's value system.

2. The level of commitment can lead to persistence. As shown above, the level of commitment is increased when the adopted behavior is (1) selected freely (versus coercively), (2) explicit (i.e., not easily deniable), and (3) publicly known (Salancik, 1977). Given a high level of commitment, some stability of the selected behavior might be expected because of the resistance to change that behavior.

The first part of this examination of the decision to continue points out that there are forces which will preclude the reevaluation of the adoption decision. As long as these forces prevail which create congruency between actual outcomes and expectations, the adopted behavior will persist. We argue that, in this environment, there is no conscious reevaluation of the adoption decision. It is even possible that the individual will persist in performing the new

behavior although the original rationale for performing the behavior
no longer exists. This may occur for the following reasons. Individuals
as information processers can attend to only a limited array of cues.
The decision to adopt generates a commitment which further limits the
range of cues the individual attends. Changes may have occurred in
the cost-benefit ratio, but the individual still persists in performing
the adopted behavior.

Factors evoking the decision to continue. The decision to continue
can be analyzed in terms of two processes. First, there are
cues that cause the individual to reevaluate the adoption decision.
Second, faced with the evaluation, the individual organizes a set of
information, evaluates, and then decides whether to continue the behavior.

There is no literature that identifies directly those factors
which cue reassessments of ongoing behavior, although it would be
relatively simple to list the potential candidates. Instead of
generating such a list, we identify some broad classes of cueing
factors that serve to illustrate the process; these are inconsistency
and new alternatives.

1. Inconsistency. When adopted, behavior was expected to result
in some set of valued outcomes. Following actual performance of the
behavior, however, information may arise to suggest that one or more
of the initial expectations was incorrect, or that the outcomes were
differentially valued from expectations. This inconsistency between
prior expectations and the resulting information will increase the
likelihood of revoking the decision to continue.

2. New alternatives. One correlate of introducing planned change programs in organizations may be the tacit encouragement to incumbents to experiment with new behaviors and seek "better" modes of performance. Hence, alternatives to the adopted behavior may be generated and evoke the decision to continue.

The decision to continue may be cued repeatedly following adoption; hence, overt persistence of a behavior may actually result from a number of serial reassessments of the behavior. The effectiveness of any particular factor in cueing a decision to continue depends on the future rewards that the individual perceives will accrue. For example, information about the nonaccrual of a valued outcome (i.e., a contradiction) is more likely to trigger a reevaluation than is information about a neutral outcome. The same argument could be made for unexpected outcomes and new alternatives.

Once the decision is evoked, the process of deciding anew whether to continue the behavior is similar to the decision to adopt. The individual remembers or forms beliefs about his capacity for performing a behavior, the connection between the behavior and its rewards or punishments, and the valence of rewards and punishments. The question is whether the adopted behavior will dominate some identified alternative. Again, our view is of a decision maker with limited rationality (March and Simon, 1958). We do not see the decision maker engaged in elaborate search routines for alternative behavior or elaborate evaluations of alternative outcomes. Indeed, the availability of information, enhanced by the saliency or recency of an event, may affect whether the new work behavior will continue.

While the process of deciding is the same, the content of the beliefs differ between the adoption and continuation decisions and the learning mechanisms that shape these beliefs. In the interval between adoption and evocation of the decision to continue, the individual has had the opportunity to reformulate the critical beliefs through feedback, direct reinforcement, and observation of others' behaviors. For example, observing that others continue that behavior, even in the light of personally discrepant outcomes, may facilitate institutionalization. The three learning mechanisms -- feedback, direct reinforcement and observation -- are probably more powerful shapers of behavior than the processes of communication and generalizing from past experience, which underlie the formation of the beliefs in the decision to adopt (Goodman and Moore, 1976). The differences in the learning processes for the two decisions may mean that the character of the beliefs is less ambiguous and more defined in the decision to continue than in the decision to adopt. This may lead to greater convergence of and predictability between beliefs and behavior in the decision to continue.

Phase Two -- Structural Level

The conceptualization of institutionalization has focused on the decision to adopt and the decision to continue. We view these two decisions, at the individual level of analysis, as critical determinants of the nature of the institutionalized act. We now turn our attention to the structural level, where an institutionalized act is performed by multiple others, exists as a social fact and persists over time.

This section charts a transition between the individual and

structural levels. Whereas the focus has been on the individual as decision maker, it is clear that decisions to adopt or to continue occur in the context of groups and organizations. As we turn our attention to others and their role in the adoption and persistence of new forms of behavior, we can build the bridge between the individual and structural level. For institutionalization to take place, the behavior must be part of the social structure.

Three conditions are important in the transition from individual behavior to institutionalization at the structural level. First, individuals must perceive relevant others, given some common stimulus, performing the new behavior. Relevant others would be the members of some defined social organization. Second, there must be a common belief that it is appropriate for members of this social organization to perform that behavior. The concept of "appropriateness" evolves from the social organization, not from the valence of the behavior for the individual. Third, there must be common belief that the social organization will sanction performance of the new behavior (Katz and Kahn, 1978).

The above conditions describe the transition between the two phases in the model -- the individual and the structural. In the following section we will examine three factors which affect these conditions. These factors are the physical setting, the social organization's norms and goals, and the cohesiveness of the social organization.

1. Physical setting. The character of the physical setting affects the level of interaction. A physical setting which constrains

interaction will limit the visibility of others' behavior . In this case, the individual will not be able to learn about relevant others' behaviors -- one of the conditions for institutionalization. In the absence of knowledge of others' behaviors, it is unlikely that the individual will develop beliefs about conditions two (appropriateness) and three (group sanctions) discussed above. A physical setting which facilitates visibility of others' behaviors creates a necessary condition for the development of beliefs about appropriateness and group sanctions.

A corollary of the influence of the physical setting is the nature of the communication system. Since the critical variable is communication among individuals, the nature of the communication system may compensate for the character of the physical setting in creating awareness of others' behaviors.

2. Social organization norms and goals. The relationship between the new form of behavior and the norms and goals of the social organization affects whether the new behavior will be perceived as "appropriate" by group members. Previously, we treated new work behavior in a descriptive manner. Here we examine how a normative label is attached to the behavior.

Social organizations are also collections of norms. Norms define appropriate behaviors for group members. They identify behaviors which are functional for organizational goals, and they provide predictability for social interactions. The degree of congruence between the new work behavior and existing norms affects whether the new behavior will be perceived as appropriate. The process by which this occurs is hypothesized as follows. A norm for appropriate behavior exists in the organization.

New work behavior is introduced which is similar to and congruent with the existing norms. Following a similarity gradient, group members generalize the appropriateness "label" to the new behavior (Breer and Locke, 1965).

The perception of behavior as appropriate is illustrated by the following example. Assume there is a work group that embraces norms about intragroup cooperation. Assume that this group has little interaction with other groups. A planned organizational change program is introduced to bring about intergroup cooperation. Individuals begin some form of intergroup cooperation and become aware that relevant others are engaged in this behavior. The greater the perceived congruence between inter- and intragroup cooperation, the more likely intergroup cooperation will be considered appropriate group behavior. Also, to the extent that intergroup cooperation facilitates the group's goals, it is more likely the group will deem this behavior as appropriate for its members.

3. The cohesiveness of the social organization. A highly cohesive group is one which is very attractive for its members. In such groups individuals identify strongly with the group and are willing (by the process of identification) to perform behaviors to maintain that satisfactory relationship. Similarly, groups that are highly cohesive have the resources and mechanisms to enforce compliance with group norms. Groups low in cohesiveness, on the other hand, do not have effective sanctioning devices. The degree of cohesiveness contributes then to the third condition for institutionalization -- the belief that sanctions (positive or negative) will follow performance (or nonperformance).

Given awareness of others' performance, the belief in appropriateness, and the expectation of sanctions, the focal behavior becomes part of the social structure. As an institutional act the behavior is then part of social reality, independent of the behavior of individuals.

It is important to recognize that the distinction between the individual and structural level is arbitrary -- made primarily to facilitate presentation. The decisions to adopt and to continue occur in a social context. Either before or after the decision to adopt, the individual becomes aware of others performing the new work behavior. Over time, the individual (while deciding whether to continue) learns whether the behavior is considered appropriate by group members and what sanctions are attached to the new behavior. The phases described separately above are in reality occurring simultaneously.

The existence of an institutionalized act does not guarantee its persistence, however. Other mechanisms need to be evoked to maintain the institutionalized act. Transmission refers to the socialization process by which institutionalized acts are passed on from old to new organizational members. Although the process of socialization has been widely examined (cf. Schein, 1968), there is little information about this process in the context of planned organizational change. It is not within the scope of this chapter to examine the merits of various socialization processes. The point is that some transmission process is necessary for persistence. Also, the degree of institutionalization will determine to some extent the type and character of the transmission process. If behavior is highly institutionalized, the necessity for elaborate or extensive transmission may not be as great when the behavior is

not widely performed, not viewed as appropriate by all members in the group, and not effectively sanctioned.

The second mechanism critical for persistence is the reward allocation process. The allocation of rewards or punishments, the existence of intrinsic reinforcements, and identification are powerful maintenance processes. Less institutionalized behavior requires greater application of these mechanisms. Behavior that is highly institutionalized requires less maintenance.

Factors Affecting Degree of Institutionalization
of Planned Organizational Change

This section reviews a series of factors that affect the institutionalization of planned organizational change. It is hoped that this review will be valuable both to those designing organizational interventions as well as to those diagnosing the success or failure of planned organizational interventions.

Selected empirical studies, mostly field investigations, will be reviewed. We draw also on the findings of a few pertinent laboratory experiments that are related to the process of institutionalization. The review is selective in the following ways. First, we examine only those studies related to the problem of sustaining change over time. Unfortunately, many of the documented studies of planned organizational change have only a short-term focus and must, therefore, be eliminated. Second, there are studies reporting changes over time (cf. Kimberly and Nielson, 1978) but offering no explanation as to why the change

was stable; these are similarly neglected.

Case studies are included which focus on the issue of
institutionalization in sufficient detail to provide some insights
into this process. Finally, only studies published in the major
organizational psychology, sociology, and change journals are reviewed.

Two categories of factors affecting institutionalization are
discussed. Factors that affect the decisions and mechanisms described
in the theoretical section are examined first. These include, at the
individual level, factors affecting the decision to adopt and to
continue. At the structural level, factors such as transmission are
studied. The second category is the organizational context itself,
both internal and external. The enumeration of these factors is limited
to the data sources identified above.

Reward Allocation Systems

1. The type of reward seems to bear on the degree of institutionalization.
While there is a large literature on rewards and reinforcement schedules,
there are few empirical studies on planned organizational change that
identify the relative influence of different types of rewards (e.g.,
intrinsic, identification, internalization). Those field studies that
have identified institutionalized behavior generally point to the
existence of internally mediated rewards. Generally the greater the
autonomy, control and responsibility the workers experience in the
new work organization, the greater the level of institutionalization
(cf. Walton, 1975). Goodman (1979) reported institutionalization of changes
in work safety practices due to an intervention that provided workers

greater authority and responsibility in decisions regarding safety. The attractive feature of internally mediated rewards is that the rewards are built into the performance of the desired behavior and are thus highly contingent on performance.

Some studies have reported that the removal of negative outcomes can facilitate the institutionalization of new work behaviors. An intervention in a coal mine produced structural changes that minimized criticism workers might experience for practicing certain safety procedures. In the absence of these sanctions, the new safety practices were institutionalized (Goodman, 1979).

Combining different types of reward systems can also affect the degree of institutionalization. In a study of a Scanlon plan (Moore and Goodman, 1976), which has remained intact over a four-year period, several types of rewards were in operation. The company-wide bonus was paid fairly regularly. Many of the workers strongly identified with the plant manager who supported the plan. Also, the workers enjoyed some of the intrinsic aspects of the plan, such as increased responsibility for guiding plant activities. In general, the combination of different rewards might be expected to encourage persistence. Two well-publicized interventions (Walton, 1978; Goodman, 1979) which did not persist were characterized by a parallel emphasis on intrinsic factors and the failure to develop a company-wide bonus system. It is reasonable to conclude that the reliance on intrinsic factors such as greater responsibility and authority may not be sufficient incentive. It can be assumed that the regular payment of a company bonus

has a strong impact on workers' perceptions of the legitimacy and viability of the change effort. Perceptions of lower levels of legitimacy and viability can be seen to contribute to the failure to institutionalize in these two experiments.

There are, unfortunately, no studies of how various combinations of rewards affect the institutionalization of behavior. This is a viable direction for future research.

2. Discrepancies between expected and actual rewards also affect the process of institutionalization. The theoretical section argued that the individual is faced with the decision to adopt. If the new form of work behavior is adopted, it will persist until a discrepancy is perceived between expected and actual rewards. This discrepancy will evoke the decision to continue. If rewards fall short of expectations over time, the behavior will not persist. The new behavior will lose its legitimacy. In a study of an intervention in a bank, Frank and Hackman (1975) report that some of the expected rewards (greater variety in work) never materialized. In addition, some jobs were already enriched, so that it was unlikely that any additional rewards were possible. In this case, the planned interventions (e.g., autonomous work teams) never became institutionalized.

3. Shifting expectation levels also affect institutionalization. An intervention promises certain rewards. These rewards influence both the decision to adopt and the decision to continue. In practice, the process is more complex. Let us assume that the expectation level of rewards is higher than those rewards available prior to the intervention.

Following the intervention, the actual rewards may exceed the expected rewards. Level of aspiration theory predicts that expectations will be even higher for future rewards (Lewin, 1935). At some point, the expectations for the rewards may outstrip the actual level. In reviews of several experiments with new work organization, Walton (1975) and others (cf. Goodman, 1979) have reported initial satisfaction with the new-found rewards. However, over time the level of enthusiasm, and institutionalization, is seen to decline. The workers may be experiencing a discrepancy between expected and actual rewards. A corollary explanation may be understood through the concept of adaptation level. Prior to the intervention let us assume the adaptation level (Helson, 1964) for a given reward is lower than the expected reward. Initially if the expected reward (e.g., level of job variety) is allocated, it should be highly valued. Over time, however, we would expect the adaptation level for variety to shift upward. The consequence should be that the attractiveness of a given level of variety should decline. This in turn might lower the level of institutionalization.

4. A related problem is that there are many unanticipated consequences of organizational interventions, some of them negative. In a review of work organization experiments, Goodman and Lawler (1977) note recurrent conflicts that were unanticipated by the organizational participants. Many of these interventions, for example, created greater role conflict for first-line supervisors and often for middle management. These unanticipated problems have been noted by others (cf. Walton, 1975; Frank and Hackman, 1975) to increase the costs of participation and to work against persistence.

Sponsorship

Withdrawal of sponsorship. Most programs in planned organizational change have some sponsor in the management hierarchy. This individual plays an important role in legitimizing the project, providing a flow of rewards, monitoring and controlling the new behaviors, and providing support in times of crisis. One of the consistent findings from this limited literature is that once sponsorship is withdrawn from the project, the new work behaviors decline. The institutionalized act is evoked less frequently in the absence of the sponsor and fewer members perform that behavior.

The withdrawal of sponsorship can follow from common organizational practices rather than be inherent to the change project. For example, Crockett (1977) reports a major organizational intervention in the State Department in which substantial changes were observed to persist for years. However, when the initiator of the project, a political appointee, left office, the organization reverted to its traditional form. The new administrator was not sympathetic to the values and structure of the change program. As support and legitimization for the program decreased, the degree of institutionalization declined. A similar effect was reported by Walton (1978) when the sponsors of the famous Topeka experiment left the organization. In some cases, the sponsor left temporarily (Frank and Hackman, 1975); in other cases (Walton, 1975; Miller, 1975), the sponsors focused attention on other organizational matters. In all cases, however, the persistence of the new structures declined.

A study by Schefelen, Lawler, and Hackman (1971) of an incentive program to
reduce absenteeism provides some insights into one class of reasons
why sponsorship might be withdrawn. In this project, the researchers
introduced, with controlled levels of participation, a group incentive
to curb absenteeism. Over the years, the results were very good for
the high participation groups that designed the incentive system
(versus those for some control groups which did not participate in the
design of the experimental system). Despite years of lower levels of
absenteeism in the participation groups, management cancelled the
incentive plan in some of these groups. Following cancellation,
absenteeism increased. The researchers argued that management's
rejection of the program, even in light of favorable results, was
due to its lack of involvement in the planning of the program.
Although top management had given its support, those middle managers
responsible for the administration of the incentive plan were not
involved in its development. The concept of multiple sponsorship
emerges from this study. While it is clear that withdrawal of top
management support means the end to any program, this study would
indicate that withdrawal of middle-management sponsorship and
other sponsors can also effectively end institutionalization.

The nature of the sponsorship can affect the degree of
institutionalization. The sponsor's roles include legitimizing the
new project, providing a flow of rewards, monitoring or controlling
the behaviors, and/or providing support in times of crisis. If the
primary role of the sponsor is monitoring and controlling behavior,
the behavior will not be highly institutionalized. In this case,

if the sponsor left the organization or focused his attention elsewhere,
the degree to which the behavior is institutionalized should decline.
By the same token, if the sponsor's primary role is to legitimize or
support the new work behavior in times of crisis, then the absence of
the sponsor should also not affect the degree of institutionalization
to the same extent. In this latter case the sponsor is not continuously
maintaining the new behavior.

Transmission

1. New organizational members. Socialization is one of the major
steps in institutionalization. After an act is institutionalized, it
is still necessary to transmit information about appropriate behaviors
to new members. None of the studies under review treat the relative
effectiveness of different transmission mechanisms. The major finding
is the absence of transmission mechanisms. Failure to transmit
information about behavior to new members should decrease the level
of institutionalization.

Miller's follow-up study (1975) of Rice's (1953) intervention in
an Indian textile mill found that the groups that maintained the structure
initiated by Rice sixteen years previously had relatively low turnover.
On the other hand, the work groups with greater mobility did not
exhibit the same level of institutionalization. The problem, of course,
is not simply mobility, but rather the resultant failure to develop
specific transmission mechanisms to socialize new leaders and members.
Walton (1975) and Goodman (1979) report similar results. Walton noted
that new members were not informed of their rights and obligations in

the new work system. The existence of unsocialized members weakens
the level of institutionalization as members differ in their perceptions
of appropriate member behavior. Several laboratory experiments (cf.
Jacobs and Campbell, 1961) concerning the persistence of group norms
with changing group membership report similar phenomena.

While the necessity seems obvious, it is interesting that
effective transmission mechanisms have been neglected in some well-
known organizational interventions. One reason for the omission is
that there is a natural tendency to focus on the "front-end" of an
intervention -- getting it started -- rather than on the mechanisms
to keep it going.

2. New organizational roles. Organizational interventions lead
to the development of new roles. The long-run success of the intervention
depends on the degree to which occupants of those roles can be trained.
Many of the roles are complicated and require a sustained socialization
effort. Transmission involves then not only the socialization of new
members but also the training of old members to insure that the
appropriate behavior will persist. Mohrman, Mohrman, Cooke, and Duncan (1977),
in a study of survey feedback in a school district, reported that the
training was not extensive enough to institutionalize the major roles. One
consequence was that many of the schools within the district did not
continue many of the new work behaviors after the project's first
year of operation. Lacking sufficient personnel, the viability of the
project was threatened. Another study (Goodman, 1979) describes a
major training program in the first year of the intervention which
led to the development of a new set of roles. However, in the second

and third years of the project, there were fewer systematic training experiences. The failure to maintain the training process over time in order to renew role behaviors contributed to some degree to the decline of the change project.

Group Forces

The theoretical section argued that the social organization or group plays an important role in the institutionalization process. As individuals become more aware that others are performing the same behaviors, that the behaviors are considered appropriate by the group, and that the behaviors are sanctioned by the group, the new behaviors are more likely to become institutionalized.

While there are many studies of the development of groups as norm-sending bodies and on group cohesiveness (cf. Davis, 1969), only a few of the studies reviewed here address the issue of group forces as they bear on institutionalization.

The level of interaction among members of the target group seems to determine whether the group will play a major role in the institutionalization process. The more meetings among target group members, the greater is the number of interactions and the greater the identity within the target group (Walton, 1975; Goodman, 1979). Identification serves as one force to maintain the new behavior. The development of group identification also permits the group to be a dispenser of rewards and punishments.

Minimizing competition within the target group by changing the evaluation system from an individual to a group standard (Lesieur, 1958;

Goodman, 1979) is another way to strengthen the group forces.

Feedback

Feedback is another factor affecting the degree of institutionalization.
The effectiveness of feedback for promoting change has been demonstrated
by various studies (cf. Nadler, 1977) of the survey feedback approach
to organizational development. These studies do not, however, examine
particular behaviors or the institutionalization of these behaviors.

1. Feedback and the institutionalization of behavior. Although
there are many studies of the effect of feedback on performance, relatively
few have examined institutionalization as a dependent variable. In a
laboratory simulation, Conlon (1978) found feedback concerning individually
valued outcomes (i.e., pay) to be more strongly related to the degree
of institutionalization than feedback concerning organizationally valued
outcomes (i.e., quality).

2. Level of feedback aggregation. In using feedback to evoke
changes, the appropriate level of aggregation for the feedback is an
important variable. For example, if an intervention requires cooperative
behavior within a work group, is feedback about the performance of
specific individuals appropriate? Berkowitz, Levy and Harvey (1957),
in a study of task group behavior in a military setting, found that
group feedback produced greater task-oriented behavior and more group
pride than did individualized feedback. It is reasonable to assume
that motivation will increase persistence. Although no data are
available, we hypothesize that the amount of cooperation required
for the task may determine what is appropriate feedback. For increasing

persistence on highly cooperative tasks, group feedback may be
effective, while for divisible, noncooperative tasks, individual
feedback may be more appropriate.

Commitment

The nature of the commitment process in the adoption decision
can increase the resistance of new behavior to change. Individuals
are more likely to persist at behaviors to which they are committed.
Of the four ways cited by Salancik (1977) to produce commitment,
volition and publicity are the most relevant to planned change contexts.

1. Volition and planned change. Volition refers to the degree
to which an individual perceives free choice in making a decision.
Free choice may apply to one's choice to participate in a change
program (i.e., volunteering) or one's ability to determine the context
or nature of new behavior (i.e., the design of the intervention). When
individuals were asked to volunteer in an organizational experiment,
they are likely to exhibit greater commitment than when a program is
imposed. The act of volunteering means the actor has made a free
choice. Similarly the voluntary decision not to participate leads
the decision maker to resist adoption of the new work behaviors
(Goodman, 1979).

There is more research on the second area of volition --
designing the nature of a work change. Scheflen et al.
(1971) state that participation in designing new work behaviors
induces a higher level of commitment among participants than would
accrue without participation. Indeed, some studies suggest that

participatively introduced change may be more durable than others (cf. Seashore and Bowers, 1978; Scheflen et al., 1971). To the extent that the participants feel that they have been responsible for the selection and content of a new work behavior, we would expect greater commitment and persistence.

2. Publicity and planned change. Publicity refers to the extent to which others know about the performance of a particular act (e.g., decision to adopt). The greater the publicity, the greater the commitment. In the Scheflen et al. (1971) study, the participants had group discussions to formulate a plan for reducing absenteeism. Individuals who publicly indicated their approval of the plan in these discussions became committed to adopting and to continuing the new behavior. In the Rushton mine quality of work study (Goodman, 1979), some behaviors became institutionalized and others did not. One institutionalized behavior, communication between crews, was characterized by high visibility (publicity). The adoption of this behavior was visible to individuals both internal and external to a work crew. The noninstitutionalized behavior, job exchange, occurred underground and was visible, at most, only to the work crew. The visibility of these adopted behaviors may have affected the degree to which individuals felt bound to continue the behavior. For the communication behavior, it would be more difficult for individuals to later devalue the behavior since it had been publicly adopted. For the job switching behavior, only the crew could know about prior adoption, perhaps making devaluation easier.

Diffusion

Diffusion refers to the extension and adoption of new forms of work behavior in a social system. The diffusion process can play a major role in facilitating institutionalization. Most change efforts focus on specific target groups. Often the target is a specific work group or a plant. It is unlikely that the change effort would include a total organization. Given the narrower focus of most change efforts, there will always be a larger formal system surrounding the target group. Walton (1975) has argued that the special treatment given to these groups creates a star envy phenomenon which generates pressures to destroy the change effort. Diffusion serves to spread the new form of work innovation throughout the system and thus to counter the invidious comparisons between treatment and nontreatment groups and to legitimate the new work innovation.

Walton (1975) has done some of the most careful analyses of diffusion in the context of planned organizational change. In an examination of eight work restructuring experiments, the effect of diffusion on institutionalization is documented -- failure to diffuse the innovation to new systems weakens the level of institutionalization in the original target system. In the Rushton mining experiment (Goodman, 1979), new forms of work organization were introduced into some work sections but not others. An attempt to diffuse the work innovations into the rest of the mine failed. Over time new forms of work organization practices in the original experimental sections began to decline due to the loss of legitimation in the larger system.

Internal Contextual Factors

The factors discussed thus far directly affect the processes of institutionalization. Internal factors refer to the organizational context surrounding the change effort.

1. The congruence of new forms of work organization with existing organizational structure affects the level of institutionalization. Congruence, or consistency, refers to the fit between the intervention structure and the organization's values and structure. The finding that cuts across a variety of studies is that the greater the consistency, the higher the level of institutionalization.

Seashore and Bowers (1978) explain the level of institutionalization by the congruence between the organizational change and the values and motives of the individual participant. In their investigation, where the changes were more congruent with the values and motives of the employees, a high level of institutionalization resulted. Mohrman et al. (1977) found in a study of a school system that the change activities persisted in those schools which had prior experience with these activities and in those schools where the intervention structure was congruent with the existing authority system. Similar findings have been reported in the relationship between experimental plants and corporate headquarters. Fadem (1976) suggests the greater the discrepancy between the experimental settings and corporate policies, the less likely the project will be institutionalized.

The explanation for the relationship between consistency and institutionalization is the following. The intervention is introduced in the target group. The new work behavior is accepted; the issue is

not one of resistance to change. The greater the discrepancy between the target group and the larger organizational context, the greater the opportunity for tension. The tension arises because the norms in the target system diverge and hence challenge the norms in the larger system. The target group is a deviant group. Given this situation, we would expect forces to be generated from the larger system to bring the target group back into line. A number of studies (cf. Walton, 1975; Goodman, 1979) provide some support for this explanation.

2. Character of the boundary conditions. Since the target group organization operates in a larger system, there is a need to manage the boundary relationship between both groups. The issue here is not one of consistency. The boundary representative of the target group wants to buffer that group against internal pressures, and extract whatever resources it can obtain from the larger system. Alderfer (1976) has hypothesized that the openness of boundary conditions are curvilinearly related to desirable characteristics of successful change programs. Miller's analysis of the persistence of change in Indian textile mills argues that institutionalization was facilitated when the buffer conditions were effectively managed. When the boundary representatives were not able to buffer external pressures (i.e., demands from higher authorities), the internal functioning of the group, and hence the new form of work behavior, dissipated.

3. Intergroup dependencies. Planned organizational change takes place in a web of interdependencies. The character of these interdependencies

can affect the level of institutionalization. Frank and Hackman (1975), in an investigation of a change effort in a bank, noted the breakdown in a related work group hindered the persistence of the intervention in the target population. The failure of a data processing department to produce the necessary information led to the downfall of the intervention strategy. Goodman (1979) reports a similar finding. Although many of the new forms of work behavior were adopted in the mining section, lack of cooperation from other work areas in the mine contributed to the eventual decline of this intervention.

External Contextual Factors

These factors refer to events outside the organization that affect the institutionalization process within the organization. The focus is on the environment as it affects the persistence of new forms of work organization.

1. Nature of the environment. Miller (1975) found differential degrees of institutionalization in different weaving groups in the Indian textile mill. One factor explaining these differences was the nature of the marketplace for the different groups. Those groups with the lowest degree of institutionalization operated in a very competitive market where the level of quality was a critical factor in affecting sales. This demand for high quality led to a great deal of pressure on the work group. The pressure over time led to the replacement of the new forms of organization with more traditional organizational arrangements. For other work groups the market for its goods was less competitive and the company held a more secure

niche. In this situation the new forms of work organization initiated by Rice in the 1950s remained in place. Walton (1978) also documented the importance of the organization's environment. He reported that as production pressures increased in the Topeka plant, there were few group meetings, more suboptimization of the shift level (at the expense of the following shift), and lower levels of quality, which had once been a source of pride. Each of these consequences worked against the institutionalization of new forms of work organization. For example, fewer meetings leads to less group identification which is a powerful force in maintaining institutionalized behavior.

2. Union-management. There is relatively little empirical work on the effect of planned organizational change on unionization. This is unfortunate, because in any attempt to restructure work where union members are the target population, the union will be a major determinant of the success of that change effort.

Kochan and Dyer (1976) developed one of the best conceptual frameworks to understand organizational change in the context of labor-management relations. One of their basic arguments is that the company and management have conflicting goals and both parties use power to achieve their goals. The scene is one of conflict rather than cooperation. Most planned organizational interventions are built on cooperation. There is an inherent conflict then between the nature of labor-management relationships and the assumptions underlying most planned organizational interventions.

From the modest number of empirical studies on planned organizational change in a union-management context (Lewicki and Alderfer, 1977; Driscoll, 1978; Herman and Macy, 1977; Goodman, 1979; and from the Kochan and Dyer

model) we can identify the following characteristics of labor-management relations that bear on institutionalization.

a. If both parties perceive the new forms of work organization as facilitating the attainment of their respective goals, the level of institutionalization should increase. In the Rushton mine quality of work experiment, the union participated to improve safety while management was more interested in increasing productivity. As long as the experimental program led to achievement of both goals, both parties remained committed to the intervention (Goodman, 1979).

b. The greater the congruency between the values and structure of the intervention with the institutions of collective bargaining, the higher the level of institutionalization. In the Rushton experiment, the payment of overtime and grievance procedures were different from the provisions in the collective bargaining agreement and different work groups operated with different procedures. This led to opposition within the work force which worked against the institutionalization of new work behaviors (Goodman, 1979).

c. The more successfully labor and management work out traditional labor-management issues, the more likely they can maintain commitments over time to new forms of work organization. At issue is a spillover effect that has appeared in a number of change programs. Here failure to solve traditional issues such as grievances spill over into relationships which require joint problem-solving behavior. Adversary behaviors drive out cooperative behaviors and new forms of work behavior decline (Goodman, 1979). The separation of collective bargaining relationships and the planned organizational change relationships

seem necessary to maintain the integrity of both institutions.

d. Certain planned organizational change efforts can lead to increased conflict within the union, which can decrease levels of institutionalization. A number of current labor and management quality of work experiments lead to increased interaction between labor and management outside the traditional collective bargaining procedure. These interactions are sometimes seen as management's attempt to coopt union officials. This leads to increased tension between union leaders and members which can lead to the union's withdrawal of support from the change effort, and hence the decline of new forms of work behavior. Another tension may arise when innovations in the target organization are at variance with the values and policies of the international union. In this case the local arrangements may conflict with the national collective bargaining practices which would lead the international to work against the newer forms of work organization and, therefore, the viability of the change effort.

Conclusion

Organizational change is a central concept in organizational theory. Current experiments in new forms of work organization have emphasized the need to increase our understanding of oraganizational change processes. This paper has elaborated on one of the central concepts in organizational change -- institutionalization. Although the process of sustaining change over time is an obvious ingredient of any organizational change, there have been few attempts to conceptualize institutionalization or to empirically examine its

antecedents or processes. The goal of this paper was to develop a conceptual framework of institutionalization. Basically the focus was to delineate this concept in order to increase our understanding of change processes. No formal theory has been developed. Rather we have tried to specify the construct space of institutionalization. The level of specification is in sufficient detail to enhance our understanding of institutionalization and to pave the way for systematic empirical studies testing hypotheses derived from this framework.

Our approach was to define institutionalization as an act and process and then to differentiate it from other concepts. Most of our conceptualization focused on the two-phase model which traces the development of an institutionalized act from a series of individual level decisions (i.e., to adopt and to continue) to its existence as part of social structure. A careful examination of this phase model provides insights into those factors that facilitate or inhibit the persistence of new forms of work behavior. Although there is no systematic literature on institutionalization of planned organizational change, we were able to identify a set of factors which seems to influence the level of institutionalization. Some of the factors, such as the nature of reward systems, transmission mechanisms, and group forces affected the persistence of new forms of work behavior. The organizational context surrounding the planned organizational intervention, as well as characteristics of the organization's environment also contributed to the institutionalization of new forms of work behavior. Although the empirical studies were not formal tests of institutionalization,

the critical factors identified in these studies were congruent with our two-phase model of institutionalization.

One objective of this paper is to call for a change of focus in the organizational change literature. Some of this literature is characterized by very general theorizing. Others, primarily those involved in the practice of changing organizations, have developed personal testimonies or case reports of interventions. Currently cataloguing intervention techniques or advocating certain techniques over others is common practice in the literature. Unfortunately, none of these approaches is going to increase our understanding of organizational change. We need to identify the critical processes in organizational change and then delineate these processes, develop hypotheses and systematically test these hypotheses. Hopefully our approach to institutionalization may begin the development of a better understanding of organizational change.

REFERENCES

Alderfer, C. Change processes in organizations. In M. Dunnette (Ed.),
    <u>Handbook of industrial and social psychology</u>. Chicago: Rand
    McNally College Publishing Co., 1976.

Asch, S.E. Studies of independence and conformity: A minority of one
    against a unanimous majority. <u>Psychological Monographs</u>, 1956,
    70(9, Whole No. 416).

Beer, M., & Huse, E.F. A systems approach to organizational develop-
    ment. <u>Journal of Applied Behavioral Science</u>, 1972, $\underline{8}$(1), 79-101.

Berger, P., & Luckman, T. <u>The social construction of reality: A
    treatise in the sociology of knowledge</u>. Garden City, NY: Double-
    day and Co., 1966.

Berkowitz, L., Levy, B., & Harvey, A. Effects of performance evalua-
    tions on group integration and motivation. <u>Human Relations</u>, 1957,
    $\underline{10}$, 195-208.

Blake, J., & Davis, K. Norms, values, and sanctions. In R. Feris (Ed.),
    <u>Handbook of Modern Sociology</u>. Chicago: Rand McNally, 1964.

Breer, P., & Locke, E. <u>Task experience as a source of attitudes</u>.
    Homewood, IL: Dorsey, 1965.

Buckley, W. <u>Sociology and modern systems theory</u>. Englewood Cliffs, NJ:
    Prentice Hall, 1967.

Conlon, E.J. <u>On the persistence of behavior in planned change contexts:
    Some effects of instrumental feedback</u> (Working Paper No. M-78-1).
    Unpublished manuscript, Georgia Institute of Technology, 1978.

Crockett, W. Introducing change to a government agency. In P. Mirvis
    & D. Berg (Eds.), <u>Failures in organizational development: Cases
    and essays for learning</u>. New York: Wiley-Interscience, 1977.

Crutchfield, R.S. Conformity and character. <u>American Psychologist</u>,
    1955, $\underline{10}$, 191-198.

Davis, J.H. <u>Group performance</u>. Reading, MA: Addison-Wesley Publishing
    Company, 1969.

Driscoll, J. <u>Change strategies for union-management cooperation: The
    Scanlon Plan</u> (Working Paper). Unpublished manuscript, Massachu-
    setts Institute of Technology, 1978.

Fadem, J. *Fitting computer-aided technology to workplace requirements: An example.* Paper presented at the 13th annual meeting and technical conference of the Numerical Control Society, Cincinnatti, March 1976.

Frank, L.L., & Hackman, J.R. A failure of job enrichment: The case of the change that wasn't. *Journal of Applied Behavioral Science*, 1975, 11(4), 413-436.

Friedlander, F., & Brown, L. Organization development. *Annual Review of Psychology*, 1974, 25.

Goodman, P.S. *Assessing organizational change: The Rushton quality of work experiment.* New York: Wiley-Interscience, 1979.

Goodman, P.S., & Lawler, E.E. *New forms of work organization in the United States.* Monograph prepared for the International Labor Organization, Geneva, Switzerland, 1977.

Goodman, P.S., & Moore, B. Factors affecting acquisition of beliefs about a new reward system. *Human Relations*, 1976, 29, 571-588.

Helson, H. *Adaptation-level theory.* New York: Harper & Row, 1964.

Herman, J.B., & Macy, B.A. *Labor-management relationships in collaborative quality of working life projects.* Paper prepared for the Quality of Working Life Assessment Conference, University of Michigan, Ann Arbor, Michigan, July 1977.

Homans, G. *Social behavior: Its elementary forms.* New York: Harcourt Brace, 1961.

Jackson, J. Structural characteristics of norms. In I. Steiner & M. Fishbein (Eds.), *Current studies in social psychology.* New York: Rinehart and Winston, Inc., 1966.

Jacobs, R.C., & Campbell, D.T. The perpetuation of an arbitrary tradition through several generations of a laboratory microculture. *Journal of Abnormal and Social Psychology*, 1961, 62, 649-658.

Katz, D., & Kahn, R.L. *The social psychology of organizations.* (2nd ed.). New York: John Wiley & Sons, 1978.

Kelman, H. Compliance, identification and internalization: Three processes of attitude change. *The Journal of Conflict Resolution*, 1958, 2, 51-60.

Kimberly, J.R., & Nielson, W.R. Organization development and change in organization performance. In W.L. French, C.H. Bell, Jr., & R.A. Zanacki (Eds.), *Organizational development: Theory, practice, and research.* Dallas: Business Publications, Inc., 1978.

Kochan, T.A., & Dyer, L. A model of organizational change in the context of union-management relations. _Journal of Applied Behavioral Science_, 1976, _12_, 59-78.

Lesieur, F.G. (Ed.). _The Scanlon Plan: A frontier in labor-management coordination_. New York: Wiley, 1958.

Lewicki, R., & Alderfer, C. The tensions between research and intervention in intergroup conflict. In P. Mirvis & D. Berg (Eds.), _Failures in organizational development: Cases and essays for learning_. New York: Wiley-Interscience, 1977.

Lewin, K. [_A dynamic theory of personality: Selected papers_] (D.K. Adams & K.E. Zenor, trans.). New York: McGraw-Hill, 1935.

Lewin, K. _Field theory in social science_ (D. Cartwright, Ed.). New York: Harper, 1951.

March, J., & Simon, H. _Organizations_. New York: Wiley, 1958.

Meyer, J.W., & Rowan, B. Institutionalized organizations: Formal structures as myth and ceremony. _American Journal of Sociology_, _83_(2), 1978.

Miller, E.J. Socio-technical systems in weaving, 1953-1970: A follow-up study. _Human Relations_, 1975, _28_(4), 349-386.

Mitchell, T. Expectancy models of job satisfaction, occupational preference and effort: A theoretical, methodological and empirical appraisal. _Psychological Bulletin_, 1974, _81_, 1053-1077.

Mohrman, S.A., Mohrman, A.M., Cooke, R.A., & Duncan, R.B. A survey feedback and problem solving intervention in a school district: "We'll take the survey but you can keep the feedback." In P. Mirvis & D. Berg (Eds.), _Failures in organizational development: Cases and essays for learning_. New York: Wiley-Interscience. 1977.

Moore, B., & Goodman, P.S. Factors affecting acquisition of beliefs about a new reward system. _Human Relations_, 1976, 571-588.

Nadler, D.A. _Feedback and organizational development: Using data-based methods_. Reading, MA: Addison-Wesley Publishing Co., 1977.

Oskamp, S. _Attitudes and opinions_. Englewood Cliffs, NJ: Prentice-Hall, Inc., 1977.

Parsons, T. _The social system_. New York: Free Press, 1951.

Rice, A.K. Productivity and social organisation in an Indian weaving shed: An examination of the socio-technical system of an experimental automatic loomshed. _Human Relations_, 1953, _6_(4), 297-329.

Rogers, E.M., & Shoemaker, F.F. Communication of innovations. New York: The Free Press, 1971.

Salancik, G. Commitment and the control of organizational behavior and belief. In B. Staw & G. Salancik (Eds.), Directions in organizational behavior. Chicago: St. Clair Press, 1977.

Scheflen, K., Lawler, E., & Hackman, J. Long term impact of employee participation in the development of pay incentive plans. Journal of Applied Psychology, 1971, 55, 182-186.

Schein, E.H. Organizational socialization and the profession of management. Industrial Management Review, Winter 1968.

Schein, E.H. The mechanisms of change. In W. Bennis, Benne & Chin (Eds.), The planning of change (2nd ed.). New York: Holt, Rinehart and Winston, 1969.

Seashore, S.E., & Bowers, D.G. Durability of organizational change. In W.L. French, C.H. Bell, Jr., & R.A. Zawacki (Eds.), Organization development: Theory, practice, and research. Dallas: Business Publications, Inc., 1978.

Walton, R.E. The diffusion of new work structures: Explaining why success didn't take. Organizational Dynamics, Winter 1975, pp. 3-21.

Walton, R.E. Teaching an old dog food new tricks. The Wharton Magazine, Winter 1978, pp. 38-47.

White, S.E., & Mitchell, T.R. Organizational development: A review of research content and research design. In W.L. French, C.H. Bell, & R. A. Zawacki (Eds.), Organizational development: Theory, practice, and research. Dallas: Business Publications, Inc., 1978.

Zaltman, G. Processes and phenomena of social change. New York: John Wiley and Sons, 1973.

Zucker, L.G. The role of institutionalization in cultural persistence. American Sociological Review, 1977, 42, 726-743.

LIST 1

MANDATORY

Office of Naval Research (3 copies)
(Code 452)
800 N. Quincy St.
Arlington, Virginia 22217

Commanding Officer
Naval Research Laboratory (6 copies)
Code 2627
Washington, D. C. 20375

Defense Documentation Center (12 copies)
Accessions Division
ATTN: DDC-TC
Cameron Station
Alexandria, Virginia 22314

Science and Technology Division
Library of Congress
Washington, D. C. 20540

LIST 2

ONR FIELD

Commanding Officer
ONR Branch Office
Bldg. 114, Section D
666 Summer St.
Boston, Massachusetts 02210

Psychologist
ONR Branch Office
536 S. Clark St.
Chicago, Illinois 60605

Psychologist
ONR Branch Office
Bldg. 114, Section D
666 Summer St.
Boston, Massachusetts 02210

Commanding Officer
ONR Branch Office
1030 E. Green St.
Pasadena, California 91106

Commanding Officer
ONR Branch Office
536 S. Clark St.
Chicago, Illinois 60605

Psychologist
ONR Branch Office
1030 E. Green St.
Pasadena, California 91106

LIST 3

ARPA

Director (3 copies)
Program Management
ARPA, Room 813
1400 Wilson Blvd.
Arlington, Virginia 22209

Director
Cybernetics Technology Office
ARPA, Room 625
1400 Wilson Blvd.
Arlington, Virginia 22209

LIST 4

CURRENT CONTRACTORS

Dr. Ben Morgan
Performance Assessment
  Laboratory
Old Dominion University
Norfolk, Virginia 23508

Dr. H. Russell Bernard
Department of Sociology
  and Anthropology
West Virginia University
Morgantown, West Virginia 26506

Dr. Arthur Blaiwes
Human Factors Laboratory, Code N-71
Naval Training Equipment Center
Orlando, Florida 32813

Dr. Milton R. Blood
College of Industrial Management
Georgia Institute of Technology
Atlanta, Georgia 30332

Dr. David G. Bowers
Institute for Social Research
P.O. Box 1248
University of Michigan
Ann Arbor, Michigan 48106

Dr. Joseph V. Brady
The Johns Hopkins University
  School of Medicine
Division of Behavioral Biology
Baltimore, Maryland 21205

Dr. Norman G. Dinges
The Institute of Behavioral Sciences
250 Ward Avenue - Suite 226
Honolulu, Hawaii 96814

Dr. John P. French, Jr.
Institute for Social Research
University of Michigan
Ann Arbor, Michigan 48106

Dr. Paul S. Goodman
Graduate School of Industrial
  Administration
Carnegie-Mellon University
Pittsburgh, Pennsylvania 15213

Dr. J. Richard Hackman
School of Organization and Management
Yale University
56 Hillhouse Avenue
New Haven, Connecticut 06520

Dr. Asa G. Hilliard, Jr.
The Urban Institute for
  Human Services, Inc.
P.O. Box 15068
San Francisco, California 94115

Dr. Charles L. Hulin
Department of Psychology
University of Illinois
Champaign, Illinois 61820

Dr. Rudi Klauss
Syracuse University
Public Administration Department
Maxwell School
Syracuse, New York 13210

Dr. Judi Komaki
Georgia Institute of Technology
Engineering Experiment Station
Atlanta, Georgia 30332

Dr. Arthur L. Korotkin
Vice-President and Director
Washington Office
Richard A. Gibboney Associates, Inc.
10605 Concord St., Suite 203A
Kensington, Maryland 20795

Dr. Edward E. Lawler
Battelle Human Affairs Research
  Centers
4000 N.E., 41st Street
P.O. Box 5395
Seattle, Washington 98105

2

LIST 4 (cont'd.)

Dr. Arie Y. Lewin
Duke University
Duke Station
Durham, North Carolina 27706

Dr. Ernest R. May
Harvard University
John Fitzgerald Kennedy
  School of Government
Cambridge, Massachusetts 02138

Dr. Arthur Stone
State University of New York
  at Stony Brook
Department of Psychology
Stony Brook, New York 11794

Dr. D. M. Nebeker
Navy Personnel R&D Center
San Diego, California 92152

Dr. Thomas M. Ostrom
The Ohio State University
Department of Psychology
116E Stadium
404C West 17th Avenue
Columbus, Ohio 43210

Dr. Manuel Ramirez
University of California at Santa Cruz
Clark Kerr Hall #25
Santa Cruz, California 95064

Dr. Saul B. Sells
Institute of Behavioral Research
Drawer C
Texas Christian University
Fort Worth, Texas 76129

Dr. Richard Steers
Graduate School of Management
  and Business
University of Oregon
Eugene, Oregon 97403

Dr. James R. Terborg
University of Houston
Department of Psychology
Houston, Texas 77004

Dr. Howard M. Weiss
Purdue University
Department of Psychological Sciences
West Lafayette, Indiana 47907

Dr. Philip G. Zimbardo
Stanford University
Department of Psychology
Stanford, California 94305

Dr. Joseph Olmstead
Human Resources Research Organization
300 North Washington Street
Alexandria, Virginia 22314

Dr. Edwin Locke
University of Maryland
College of Business and Management
  and Department of Psychology
College Park, Maryland 20742

Dr. Clayton P. Alderfer
Yale University
School of Organization and Management
New Haven, Connecticut 06520

Dr. Larry Cummings
University of Wisconsin-Madison
Graduate School of Business
Center for the Study of
  Organizational Performance
1155 Observatory Drive
Madison, Wisconsin 53706

Dr. Benjamin Schneider
Michigan State University
Graduate School of Business Administration
Department of Management
East Lansing, Michigan 48824

3

LIST 5

MISCELLANEOUS

Air Force

AFOSR/NL (Dr. Fregly)
Building 410
Bolling AFB
Washington, D. C. 20332

Military Assisstant for Human Resources
OAD (E&LS) ODDR&E
Pentagon 3D129
Washington, D. C. 20301

Technical Director
AFHRL/ORS
Brooks AFB, Texas 78235

AFMPC/DPMYP
(Research and Measurement Division)
Randolph AFB, Texas 78148

Air University Library/LSE 76-443
Maxwell AFB, Alabama 36112

Air Force Institute of Technology
AFIT/LSGR (Lt. Col. Umstot)
Wright-Patterson AFB, Ohio 45433

Army

Office of the Deputy Chief of Staff
  for Personnel, Research Office
ATTN: DAPE-PBR
Washington, D. C. 20310

Army Research Institute (2 copies)
5001 Eisenhower Avenue
Alexandria, Virginia 22333

ARI Field Unit - Leavenworth
P.O. Box 3122
Fort Leavenworth, Kansas 66027

Headquarters FORSCOM
ATTN: AFPR-HR
Ft. McPherson, Georgia 30330

CAPT Joseph Weker
Department of the Army
Headquarters, 32D Army Air
  Defense Command
APO New York 09175

ARI Field Unit - Monterey
P.O. Box 5787
Monterey, California 93940

Marine Corps

Dr. A. L. Slafkosky
Code RD-1
HQ U.S. Marine Corps
Washington, D. C. 20380

Commandant of the Marine Corps
(Code MPI-20)
Washington, D. C. 20380

Coast Guard

Mr. Richard Lanterman
Chief, Psychological Research Branch
U.S. Coast Guard (G-P-1/2/62)
Washington, D. C. 20590

Navy

Office of the DCNO(MPT)
Scientific Advisor (OP-01T)
Washington, D. C. 20350

Office of the DCNO(MPT)
OP-15
Director, Human Resource Management
  Division
Washington, D.C. 20372

CAPT Paul D. Nelson, MSC, USN
Director of Manpower & Facilities
  (Code 60)
5105 Building 5 PTX
Washington, D.C. 20372

LIST 5 (cont'd)

Office of the Commanding Officer
Navy Medical R&D Command
Bethesda, Maryland 20014

Superintendent (Code 1424)
Naval Postgraduate School
Monterey, California 93940

Office of the DCNO
Head, R, D, and S Branch (OP-102)
Washington, D.C. 20350

Office of the DCNO
Director, HRM Plans and Policy Branch
OP-150
Washington, D.C. 20350

Professor John Senger
Operations Research & Admin. Science
Naval Postgraduate School
Monterey, California 93940

Training Officer
Human Resource Management Center
Naval Training Center (Code 9000)
San Diego, California 92133

Scientific Director
Naval Health Research Center
San Diego, California 92152

Navy Personnel R&D Center (5 copies)
San Diego, California 92152

Commanding Officer
Naval Submarine Medical Research Lab.
Naval Submarine Base
New London, Box 900
Groton, Connecticut 06340

Commanding Officer
Naval Training Equipment Center
Technical Library
Orlando, Florida 32813

NAMRL, NAS
Pensacola, Florida 32508

Chief of Naval Technical Training
Code 0161
NAS Memphis (75)
Millington, Tennessee 38054

Human Resource Management Detachment
Naples
Box 3
FPO New York 09521

Navy Military Personnel Command (2 copies
HRM Department (NMPC-6)
Washington, D.C. 20350

Human Resource Management Detachment
Rota
Box 41
FPO New York 09540

Human Resource Management Center
Norfolk
5621-23 Tidewater Dr.
Norfolk, Virginia 23511

Human Resource Management Center
Building 304
Naval Training Center
San Diego, California 92133

Office of Naval Research (Code 200)
Arlington, Virginia 22217

ACOS Research & Program Development
Chief of Naval Education & Training (N-5)
Naval Air Station
Pensacola, Florida 32508

Human Resource Management School
Naval Air Station Memphis (96)
Millington, Tennessee 38054

Director, Human Resource Training Dept.
Naval Amphibious School
Little Creek
Naval Amphibious Base
Norfolk, Virginia 23521

LIST 5 (cont'd)

Naval Material Command
Management Training Center (NMAT 09M32)
Room 150 Jefferson Plaza, Bldg. #2
1421 Jefferson Davis Highway
Arlington, Virginia 20360

Commanding Officer
HRMC Washington
1300 Wilson Blvd.
Arlington, Virginia 22209

Head, Research and Analysis Branch
Navy Recruiting Command (Code 434)
801 North Randolph Street, Room 8001
Arlington, Virginia 22203

LCDR William Maynard
Psychology Department
National Naval Medical Cednter
Bethesda, Maryland 20014

CAPT Donald F. Parker, USN
Commanding Officer
Navy Personnel R&D Center
San Diego, California 92152

Dr. Myron M. Zajkowski
Senior Scientist
Naval Training Analysis and
   Evaluation Group
Orlando, Florida 32813

Other

Organizational Psychology Research Group
Office of Personnel Management
1900 E Street, N.W.
Washington, D. C. 20415

HumRRO (ATTN: Library)
300 North Washington Street
Alexandria, Virginia 22314

Office of the Air Attache (S3B)
Embassy of Australia
1601 Massachusetts Avenue, N.W.
Washington, D. C. 20036

Scientific Information Officer
British embassy - Room 509
3100 Massachusetts Avenue, N.W.
Washington, D. C. 20008

Canadian Defense Liaison Staff,
   Washington
2450 Massachusetts Avenue, N.W.
Washington, D. C. 20008
ATTN: CDRD

Mr. Luigi Petrullo
2431 North Edgewood Street
Arlington, Virginia 22207

Dr. Eugene F. Stone
Assistant Professor of Administrative
   Sciences
Krannert Graduate School
Purdue University
West Lafayette, Indiana 47907

Mr. Mark T. Munger
McBer and Company
137 Newbury Street
Boston, Massachusetts 02116

Commandant
Royal Military College of Canada
Kingston, Ontario
K7L 2W3
ATTN: Department cf Military
         Leadership and Management

National Defence Headquarters
Ottawa, Ontario
K1A OK2
ATTN: DPAR

Dr. Richard T. Mowday
Graduate School of Management
   and Business
University of Oregon
Eugene, Oregon 97403

LIST 5 (cont'd)

CDR William A. Earner
Management Department
Naval War College
Newport, Rhode Island 02940

Mr. Martin Milrod
Educational Equity Grants Program
1200 19th Street, N.W.
National Institute of Education
Washington, D. C. 20208

CAPT Richard L. Martin, USN
Commanding Officer
USS Francis Marion (LPA-Z49)
FPO New York 09501

ATTN: Library
ARI Field Unit - USAREUR
c/o DCSPER
APO New York 09403

MAJ Robert Wiltrout
Mr. Richard Grann
U.S. Army Trimis-Evaluation Unit
Walter Reed Army Medical Center
Washington, D. C. 20012

Mr. Thomas N. Martin
Department of Administrative Sciences
College of Business and Administration
Southern Illinois University
Carbondale, Illinois 62901

CAPT D. A. Griffin
Commander in Chief
U.S. Atlantic Fleet
Human Resource Management Division
Norfolk, Virginia 23511

CDR George Sullivan
Commander in Chief
U.S. Pacific Fleet
Human Resource Management Division
Pearl Harbor, Hawaii 96860

CAPT Ken Nider
Commanding Officer
Human Resource Management School
Naval Air Station Memphis
Millington, Tennessee 38054

CAPT Buzz Bibby
Commanding Officer
Human Resource Management Center
Pearl Harbor, Hawaii 96860

CAPT Ron Pickett
Commanding Officer
Human Resource Management Center
Box 23
FPO New York 09510

CDR T. W. Yankura
Officer in Charge
Human Resource Management Detachment
P.O. Box 81
Naval Submarine Base New London
Groton, Connecticut 06340

CDR Richard Cain
Officer in Charge
Human Resource Management Detachment
Naval Air Station
Mayport, Florida 32228

CDR Stan Stanley
Officer in Charge
Human Resource Management Detachment
Naval Air Station Whidbey Island
Oak Harbor, Washington 98278

CDR George Lisle
Officer in Charge
Human Resource Management Detachment
Naval Base
Charleston, South Carolina 29408

CDR Graig L. Barnum
Officer in Charge
Human Resource Management Detachment
COMNAVFORJAPAN
FPO Seattle 98762

CDR John Bloomer
Officer in Charge
Human Resource Management Detachment
Box 60
FPO San Francisco 96651

Commander in Chief
U.S. Naval Forces Europe
Human Resource Management Division
FPO New York 09510

CAPT George Fenzel
Officer in Charge
Human Resource Management Detachment
Naval Air Station
Alameda, California 94591